



SEQUENCE LISTING

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<120> USE OF METALLIC CATIONS TO IMPROVE FUNCTIONAL ACTIVITY OF
ANTIBODIES

<130> 096183-0104

<140> 10/576,440

<141> 2007-03-23

<150> PCT/FR2004/002687

<151> 2004-10-20

<150> FR 0312228

<151> 2003-10-20

<160> 2

<170> PatentIn version 3.5

<210> 1

<211> 1428

<212> DNA

<213> Homo sapiens

<220>

<223> cDNA sequence of double mutant His310-435Lys

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agccgatggc tgcaattagg tcttgaagat gcttttcata tctggggcca ggggacaatg	420
gtcaccgtct cttcagcctc caccaagggc ccatcggtct tccccctggc accctcctcc	480
aagagcacct ctggggggcac agcggccctg ggctgcctgg tcaaggacta cttccccgaa	540
ccggtgacgg tgtcgtggaa ctcaggcgcc ctgaccagcg gcgtgcacac cttcccggct	600
gtcctacagt cctcaggact ctactccctc agcagcgtgg tgaccgtgcc ctccagcagc	660

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gaactcctgg ggggaccgtc agtcttcttc ttccccccaa aaccaagga caccctcatg      840
atctcccgga cccctgaggt cacatgctgt gtggtggacg tgagccacga agaccctgag      900
gtcaagttca actggtacgt ggacggcgtg gaggtgcata atgccaagac aaagccgcgg      960
gaggagcagt acaacagcac gtaccgtgtg gtcagcgtcc tcaccgtcct gaagcaggac     1020
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gagaaaacca tctccaaagc caaagggcag ccccgagaac cacaggtgta caccctgccc     1140
ccatcccggg atgagctgac caagaaccag gtcagcctga cctgcctggg caaaggcttc     1200
tatcccagcg acatcgccgt ggagtgggag agcaatgggc agccggagaa caactacaag     1260
accacgcctc ccgtgctgga ctccgacggc tccttcttcc tctacagcaa gctcaccgtg     1320
gacaagagca ggtggcagca ggggaacgtc ttctcatgct ccgtgatgca tgaggctctg     1380
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<210> 2

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<212> PRT

<213> Homo sapiens

<220>

<223> Peptide sequence of double mutant His310-H435Lys.

<400> 2

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Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
20          25          30

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Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe
35          40          45

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Lys Asn Tyr Ala Met His Trp Val Arg Gln Ala Pro Ala Lys Gly Leu
50          55          60

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Glu Trp Val Ala Thr Ile Ser Tyr Asp Gly Arg Asn Ile Gln Tyr Ala
65          70          75          80

```

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Asp Ser Val Lys Gly Arg Cys Thr Phe Ser Arg Asp Asn Ser Gln Asp
85          90          95

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Thr	Leu	Tyr	Leu	Gln	Leu	Asn	Ser	Leu	Arg	Pro	Glu	Asp	Thr	Ala	Val			
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Tyr	Tyr	Cys	Ala	Arg	Pro	Val	Arg	Ser	Arg	Trp	Leu	Gln	Leu	Gly	Leu			
		115					120					125						
Glu	Asp	Ala	Phe	His	Ile	Trp	Gly	Gln	Gly	Thr	Met	Val	Thr	Val	Ser			
	130					135					140							
Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser			
145					150					155					160			
Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp			
				165					170					175				
Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr			
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Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr			
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Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln			
	210					215					220							
Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp			
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Lys	Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro			
				245					250					255				
Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro			
			260					265					270					
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr			
		275					280					285						
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn			
	290					295					300							
Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg			
305					310					315					320			

Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
 325 330 335

Leu Lys Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
 340 345 350

Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
 355 360 365

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp
 370 375 380

Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
 385 390 395 400

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
 405 410 415

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
 420 425 430

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
 435 440 445

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Lys Tyr
 450 455 460

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 465 470 475